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ABSTRACT

The objective of the study was to explore how social mindies or the process social units of mind, social interaction, and private and public behavior are related in the time interval between 13 and 16 years of age. A "mindy" is a unit process of mind constructed through using a mental shape as a sketch for mindy processing. A social mindy is a mindy that channels social interaction into a conservative rut. Conservatism of social interaction produces a divergence from public and private behavior during the years from 13 to 16. The subjects were 106 secondary comprehensive school students in Finland. An axiom of mindy was constructed based on results of previous studies, and a hypothesis was derived from the axiom. Three questionnaires were constructed for variables other than the social mindies, which were measured with a developed test. The reliability and validity of the measures were evaluated. The dynamic evaluation included an application of the Bayes tree for the calculation of conditional probabilities. The hypothesis was not corroborated and the results seemed merely serendipitous. Results indicate the existence of a trim effect and dicausalities between the variables. In addition, results indicate that social behavior can be ostensible and that during the time between ages 13 and 16 subjects become perplexed with the social environment. An educational application for teaching social skills and a further refinement of educational theory are presented. (Contains five tables, one figure, and six references.) (Author/SLD)

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An Educational Angle at Social Mindies, Interaction with Social Environment, Private and Public Behavior in the Age of 13-16

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Running head: AN EDUCATIONAL ANGLE AT

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Abstract

The objective of the study was to research how social mindies or the processual social units of mind, social interaction, private and public behavior are related in the time interval of 13-16 years of age. The subjects were 106 secondary comprehensive school pupils in the same school district. An axiom of mindy was constructed based on the former result of studies and a hypothesis was derived from the axiom. Three questionnaires were constructed for other variables than the social mindies that were measured with a developed test. The reliability and validity of the measures were evaluated. The dynamic analysis included an application of the Bayes tree for the calculation of conditional probabilities. The hypothesis did not corroborate and the results proved to be serendipitous. The results indicated the existence of a trim effect and of dicausalities between the variables. In addition, the results indicated that social behavior can be ostensible and that during the time span the subjects become perplexed with social environment. Thereafter an educational application was presented for teaching social skills and an exclusion of variables from social education theory

An Educational Angle at Social Mindies, Interaction with Social Environment, Private and Public Behavior in the Age of 13-16.

The study at hand is a consistent outcome from a series of studies that began from the research of the emergence of a mental shape (Laasonen, 1992). The results indicated that a croupier process exists which is responsible for the formation of a mental shape and values determine contents of the shape. The croupier process includes separation-and sorting and collection of environmental information. In the second study (Laasonen, 1993a) a concept of mindy or a unit process of mind was developed and applied to a self study. The results showed that it was possible to examine behavior with the mindy concept and in addition, the results indicated a need for a theory of hypocrisy to explain social behavior.

The study dealt with the emergence of a mindy (Laasonen 1993b) indicated that construction of a mindy is a two-phase process with a serial preparatory subprocess and a parallel autonomous making subprocess where a mental shape is used as a sketch for mindy processing. However, the mindy studies did not include any social aspect which is important in education

because we people live with each other and coping with each other is necessary for attaining objectives. So a natural extension from the former is to study social mindies, defined later, and public and private behavior because of the need of theory of hypocrisy. Thus the point of the study is to research the possible effects of social mindies to public and private behavior where social interaction mediates the effects.

Theorizing about Mindy

Maybe it is too hasty to attempt to construct an axiom of mindy but in this case too early is better than never. The axiom of a mindy bases on the obtained results (Laasonen 1993b). Thus the unit process of mind called a mindy is a hierarchical regulation process that differentiates between a serial, preparatory control process and a parallel, autonomous making subprocess, applying information defined as form bound meanings to its function.

Anyway, it is encouraging to have an axiom because a researcher does not need to prove the thing. Instead, the axiom warrants the construction of a hypothesis on a general level which according to Chambers can be a disadvantage, as he verifies "...because empirical

research in education uses general concepts it may be irrelevant how sophisticated the statistical procedures may come, or how rapid the computers."(1991, p. 49). However, from the viewpoint of a research process it can be an advantage to approach the object first more generally and during the study to try to make conceptual specifications if needed. This strategy is adopted in this context because of the use of new measurement devices, not item analyzed. Thus the hypothesis is constructed between social mindies, social interaction, public and private behavior without further specification before the measure analysis.

It is assumed a social mindy is a mindy that channels social interaction into a conservative rut; conservatism of social interaction produces divergence from public and private behavior during the years from 13 to 16.

The high position of the social mindy in the hypothesis comes from the interactive case history of a young one, before the age of 13. It is not unusual that mindies are constructed about persons but construction of an individual mindy is not social. That is why it is reasonable to verify that a social mindy is to include

persons and varying interaction between them as an organized entity. Thus a social mindy is to form an interactive dyad in mind, at least, by definition of social behavior. So a social mindy is defined as an interactive organized process of person mindies which is constructed from the experiental contacts with other people. Consequently, the social mindies exist before the age 13.

The question is about a regulating process and the regulation does not limit itself on the inner subprocesses of the social mindy. So the inference is that the social mindies regulate interaction with social environment, conservatively which is the mode of behavior of children, often. According to another general knowledge public and private attitudes do not coincidence. Regression effects occur in public situations. The conservative mode of behavior produces the divergence from public and private behavior because obeying norms is more according to public situations but in private situations the control fades. Children learn to behave hypocritically on the social stage that increases the gap between public and private behavior. The fact is verified in the adult study (Laasonen, 1993a) clearly.

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Behavior of the subjects according to their conceptions produces a role conversion process before entering social situations. So different roles project into social environment than the ones which originally are born in one's self-representation. It is hypocrisy. As an entity, it can be assumed that from the age 13 on, getting into a rut emerges because repeated events which are experienced as similar work through social reality, the knowledge of which is necessary for further development.

Education anchors with values, and in educational settings such as in schools trust, honesty, frankness, and other things emphasize, especially genuineness. How can a human being be genuine if he or she behaves differently in publicity under surveillance of others than being alone. However, there emerges a contrast between the educational settings and the real world because persons behave differently in school than in reality. School tries to be a rose garden when reality is the slums. That is why it is essential that social mindies are educated and the organization of the social mindies develops flexible for the varying situations of reality. For example such a simple fact is not taught

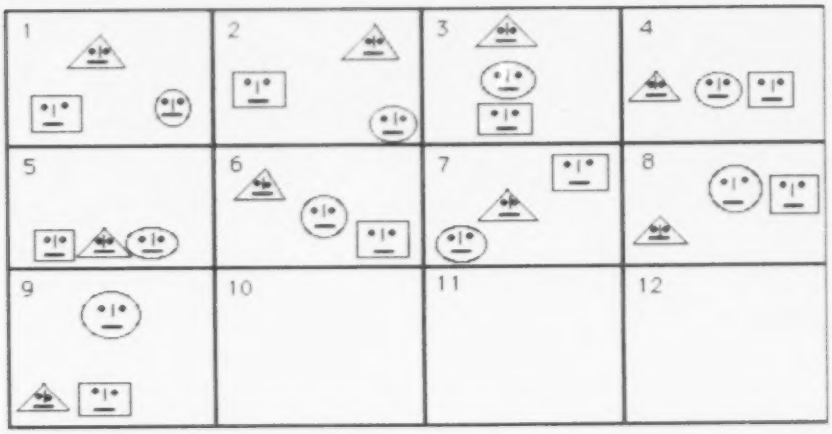
in schools as how to deal with civil servants, successfully. Thus social skills need organized and flexible social mindies as well as coping with social environment. Thus from the viewpoint of social education it is necessary to have knowledge about the processes in mind. They probably have focal influences in behavior in the presence of others and how people behave when they are alone.

Method

Construction of Measures

Different types of items were constructed for public and private behavior, social interaction, and social mindies. The first three measures were of questionnaire type and the social mindy measure was a test. The public and private behavior measures included 7 items with yes and no response heads. The social interaction measure was constructed from the Balesian classification of behavior with 2 items for each category including yes and no response heads. The social mindy measure was constructed with the help of three figures (see Figure 1).

Insert Figure 1 about here



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The location of the figures varied as if the figures formed a story.

Subjects

The subjects were 106 pupils from a secondary comprehensive school. All of them came from the same school district.

Procedure

The data collection took place during the lessons and the answering lasted about 35 minutes. The public and private measures were instructed: There is a set of questions below and after them are Y and N. Y is yes and N is no. If you accept the thing, which the question presents then you circle Y otherwise N. The social interaction measure was instructed: There is a set of arguments below and you answer them circling either of the signs according your action. The social mindy measure was instructed: There is a cartoon below which includes three figures. Your task is to complete the cartoon drawing the series to the end with the same figures that exist in the frames.

The data differentiated among four age groups 13, 14, 15, and 16. The distribution of the number of the subjects was about the age 25, 33, 34, and 14.

Results

Item Analysis

The social mindy test was not item analyzed because of the nature of the test. The dichotomic items were analyzed with a simple procedure. Only those items were accepted into the final measure that had the greatest number of ones in the age groups. The procedure resulted in the following items.

Public behavior:

1. I participate the activities of others in the presence of them.
2. I notify to others in the presence of them if they are wrong.
3. As an entity I behave in the presence of others as I see it best.

Private behavior:

1. Alone I overcome my shyness.
2. Alone I criticize myself from stupid former behavior.

Social interaction:

1. I joke when I am in a company of persons.
2. I rather laugh with persons.
3. I understand other people.

The dichotomic item values were added, and the reliability and validity of the measures were evaluated.

Reliability and Validity

The reliability of the measures was evaluated in each age group but the reliability of the social mindy test was evaluated with a different method than the one of other measures.

A simple formula was developed for the evaluation of the dichotomic measures: r_{ii} = 1−[(Sum of products of the empirical item values/Sum of the sums of the empirical values)−(Sum of the products of the empirical item values/Maximum sum of theoretically possible item values)]. The idea behind the formula is simple, error is subtracted from the empirical values. The reliability coefficients of the dichotomic variables proved to be as in Table 1.

Insert Table 1 about here

The coefficients are reasonable high and there is not much variation among the coefficients.It indicates that the measures are not age specific. Thus they behave about in the similar manner in every

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Table 1

Reliability Coefficients in Age Groups

Age	13	14	15	16
Variable				
Public behavior	.83	.88	.87	.90
Private behavior	.88	.91	.90	.90
Social interaction	.93	.95	.98	.95

age group. So the measures are not age sensitive.

The social mindy test needed a different method of evaluation. The definition of a social mindy presumes interaction between the figures that has to included in the examination. To produce organization to the answers, a scale was constructed, based on the location of the figures in the frames. When a figure located up it scored 6, when up and beside 5, middle 4, middle and beside 3 scores, down 2 scores, and down and beside 1 score. In next phase the task was to determine the weighs of interaction for the figures. That took place multiplying the statistical probabilities of occurrence with each other. Thereafter the sum scores of the figures were added and multiplied with the interaction coefficients in the items. The obtained values were added over the figures, modified into z-scores, and correlations were calculated between the items. The proper evaluation of the reliability coefficient of the social mindy measure took place with the help of mean correlations between the items (Nunnally, 1967 p. 193). The resulted values are in Table 2.

Insert Table 2 about here

Table 2

Reliabilities of Social Mindies in Age Groups

Age	13	14	15	16
	.16	.48	.88	.16

Along Table 2 the measure is sensitive to age because it resists randomness differentially. So the reliability of the social mindy test is modest.

Validities are many kinds but in this case the question is about a kind of predictive validity. The purpose was to evaluate a mean validity between the measures in the age groups. That is why the grand means were calculated for the age groups and the means were weighed with the statistical probabilities of the number of subjects. The weighted values were scaled and the method of least squares of fitting a curve was applied between age and the scaled values. The result was a set of cubic curves shown in Table 3.

Insert Table 3 about here

The only exception among the curves is the social mindies but it is 3rd degree, too. Evidently, the knowledge of the weighed grand mean of the age 13 gives possibilities to determine the other means and that is "prediction." One can always claim that n-1 polynomial is the solution but the difference in many cases exists in that the polynomial over degree 3 are seldom

Table 3

Cubic Curves of Variables

Variable	Equation
Public behavior	$Y=181.05-42.07X+3.23X^2-0.08X^3$
Private behavior	$Y=264.60-58.89X+4.35X^2-0.10X^3$
Social interaction	$Y=259.20-58.16X+4.33X^2-0.10X^3$
Social mindies	$Y=1088.9-229.27X+16.05X^2-0.37X^3$

solvable. Thus the measures have average "predictive" validity under these research circumstances.

Analysis of Dynamics

The sum scores in the evaluation of reliability and validity formed the starting point of the process analysis. The sum scores of the subjects were put in a sequence of increasing age. So they formed a queue of 106 values for each variable. One of the problems was to transform the values in the same scale because of the different number of subjects in the age groups. The problem was solved by dividing every sum score with the sum of the greatest values in each age group. The frequency distributions of the values were determined and differentiated into two classes. Usually a rule of thumb for classification is a cubic root from the number of observations but in this case two classes were enough, low and high quantity of variables. Sometimes roughness of measurement is an advantage because behavior functions on a macrolevel. The proper method was conditional probability that is obtainable through the Bayes tree (Anton & Kolman, 1978, pp. 267-270). The method was chosen because it offers a possibility to examine

influences between the variables, the soft causalities. Consequently, the needed trees of the method were formed horizontally and vertically. The former ones were for the "causal" analysis, the latter ones for variable interaction. Only the greatest probabilities included in the examination. The initial probabilities are in Table 4 and the row sums are not quite exact because of the machine roundings.

Insert Table 4 about here

The first observation from Table 4 is that there is something regular in the values. On the other hand, there is alternation between the values.

The tree analysis resulted in the values in Table 5.

Insert Table 5 about here

There is a pattern between the conditional probabilities among the variables.

Table 4

Initial Probabilities of Dynamics Analysis

	Age							
	13		14		15		16	
Variable								
	Low	High	Low	High	Low	High	Low	High
Social Mindies	.15	.08	.25	.06	.25	.07	.05	.08
Social Interaction	.03	.21	.04	.27	.03	.29	.02	.11
Public Behavior	.03	.21	.10	.21	.02	.30	.05	.08
Private Behavior	.14	.09	.24	.08	.24	.08	.07	.07

Table 5

Conditional Probabilities of Variables

Age	13		13-14		14		14-15		15		15-16		16	
						Quantity								
	Low		High		Low		High		Low		High		Low	High
	Sm	.15	Si	.14	Sm	.17	Si	.20	Sm	.18	Si	.14	Pr	.12 Si
	Sm	.15	Pu	.14	Sm	.13	Pu	.15	Sm	.19	Pu	.15	Pr	
	Pr	.14	Si	.13	Pr	.16	Si	.19	Pr	.17	Si			
	Pr	.14	Pu	.13	Pr	.12	Pu	.15	Pr	.18	Pu			

Interactions

Age	13	14	15	16
		Quantity		
Low-Low	Sm .28 Pr	Sm .22 Pu	Sm .35 Pr	Sm .13 Pr Pr .13 Pu
High-High	Si .30 Pu	Si .22 Pu	Si .24 Pu	Sm .09 Si Si .09 Pu

Note. The meanings of the abbreviations are: Sm = social mindies ; Si = social interaction ; Pu = public behavior ; Pr = private behavior

Joining the horizontal or the upper part of Table 5 and the vertical or the interaction part results a chain of effects between the variables that has a certain pattern.

Discussion

Before the conceptual specifications I have to verify that the hypothesis did not corroborate. Instead, the results are somewhat serendipitous.

Conceptual Specifications

Taking the items of the measures under keener scrutiny makes me perform a trivial conceptual analysis. What kind of private behavior is in question when the subjects answer that they win their shyness and pick out their faults after social situations? Evidently, behavior occurs which characterizes as calming down and repeating former events. So behavior is postsocial simulation because the former chains of events repeat in privacy.

How is public behavior according to the items? The subjects answer that they participate common activities, they notify from wrong being, and behave unconcernedly in the presence of other. The participation implies that the subjects are not

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indifferent, notifications and unconcern show a kind of courage. Thus the entity of behavior characterizes as easily going in publicity.

As to social interaction, the subjects want to joke, laugh, and in addition they understand other people. That kind of behavior indicates positive orientation and especially, to social environment. So this specification is called positive orientation to social environment.

The social mindy measure was quantified in the way that low quantity shows loose interaction and accordingly a loose social mindy. The high quantity indicates close or tight interaction and a close social mindy.

Returning to the dynamic chain of the conditional probabilities in Table 5 with the specified concepts warrants inferences that are directly observable in Table 5. The starting point of the chain is the social mindies because they have developed during the social case histories as remarked formerly and they are like conceptions, which regulate behavior. The seemingly small conditional probabilities in Table 5 are very high. The ground against which the conditional probabilities are evaluated is

the values of the total trees, and their mutual magnitudes. Especially, the conditional probabilities are very high till the 16 years of age and after that they are high. In the entire dynamic, variation occurs among the values. Logically, the interactions are biconditions or sufficient and necessary conditions. The between relations are implications or sufficient conditions. However, the relations among the variables are not strict causalities but as soft ones based on the probabilistic examination. In the interpretation, the former state of variables remains valid and that is to be remembered in the place of the conclusions from Table 5.

In a behavioral sense the entire dynamic characterizes as a process of dress in the same manner a baker dresses a cake with whipped cream from a high and round carton. The process of dress begins with tight dicausalities and during the dynamism loosenings and tightenings occur but the direction is towards slackened relations as outputs.

In the age of 13 the incoherent processing of the social mindies, which themselves are processes, generates private behavior which has a low rate of

repetition of former social situations. This for its part upholds the incoherence of the social mindy processing. Thus a dicausal circle exists between the variables. The circle is a suppression circle because small amount of behavior causes small amount of behavior. The suppression circle induces a dicausality that includes great amount of positive orientation to social environment and great amount of cool and relaxed behavior in publicity. The circle is the maintenance circle because great amount sustains great amount.

From 13 to 14 years of age the maintenance circle reduces the suppression between the incoherence of the social mindy processing and the small amount of social situation repetition behavior. Accordingly, reason, coherence, and repetition increase in behavior. The rising of coherence of the processing the social mindies and of repetitive behavior slacks the maintenance circle, which means great amount of positive orientation to social environment. The corresponding cool, relaxed public behavior diminishes in the age of 14.

In the transition from 14 to 15 years the loosened maintenance circle with the reduced positive orientation

and diminished cool, relaxed public behavior intensifies the coherence of processing social mindies, and the repetition of social situations in privacy.

During the age of 15 the intensification of the coherence of processing social mindies and of the repetition of social situations maintains the dicausality of the reduced positive orientation to social environment and of the diminished cool, relaxed public behavior.

During the transition from 15 to 16 years of age the continuance of the reduced positive orientation to social environment and of the lessened cool, relaxed public behavior has dual effects. On the other hand, the continued dicausality decreases the coherence of processing social mindies and the repetition of social situations in privacy. On the other hand, the continued dicausality generates a dicausality of increased repetition of social situations in privacy and the reduced cool, relaxed public behavior. The circle is evaluation of one's own social action because private repetitive behavior induces the reduced cool, relaxed public behavior and vice versa. That indicates social consideration and paying attention to others. In the age of 16 the evaluation of

one's own social behavior and the reduction in the circle of coherent processing of the social mindies and of the decreased repetition of social situations in privacy function in a dual way. On the other hand, the circles further the reduction of the maintenance circle which purposes that positiveness towards social environment diminishes and the cool, relaxed public behavior reduces. On the other hand, the circles produce a dicausality between the formerly lessened positiveness towards social environment and the lowered coherence of processing social mindies, both of which feeds each other. The dicausality is a preliminary stage of realism because the reductions and their mutual causalities show that the subjects are about giving up the either-or thinking in social relations. The great amounts of positiveness and of coherence are not necessarily desirable, anymore. The renouncing time begins.

In the entire process the dynamic develops from minute social concern and social amusement towards examination of one's social relations with others and more realistic behavior.

In this application part I have to notify that the institutional settings of education has a limited

capacity to implement any novel subject or creative solutions. Reasons are many and one of them is the rigid curriculum arrangements and the dogmatic nature of instruction where probabilistic things are taught as truths. The other reason is the influence of homes, although they nowadays rather push their responsibilities to other educational institutions.

Keeping in mind the boundaries of implementation a matter of surprise pops up in the age of 13. Social relations are dealt with in mind and alone, scarcely, which produces desire for social amusement with others. Thus it is well grounded to wonder why practical knowledge of human behavior is not an essential part in education. I cannot avoid perceiving that sociability in the age of 13 can be apparent, although from the viewpoint of adult behavior it seems to be social. The social amusement behavior probably serves egocentric needs as an outcome of small amount of thinking social relations. In the education of social skills in this age behavioral statistics can be presented, for example crime rates, number of foreigners and minorities, and their relations with the groupings of the population. If there is time enough in some lessons for example language lessons, role-games can be performed between citizens of different

countries. The are cultural games to increase international understanding, quite suitable to implement social education. I hope the exercises can hinder narrow-mindedness and the origination of mean soul that is one of the main problems in human relations.

Between the ages 13 and 14 the pondering over social affairs raises as an outcome of social amusement behavior with others. The processing social relations in mind can be promoted with the action research applications or the practical exercises used in organization development for schools (Schmuck & Runkel & Arends & Arends, 1977). The same exercises also apply to pupils to support the development to cope with other people.

In the age 14 the aroused social concern diminishes the desire for social amusement behavior with others. That means a kind of uncertainty in behavior. There, however, are possibilities to turn uncertainty into certainty, through instruction in familiarity with the ways of society and teaching public conduct and manners. So that simulation of social situations can be utilized. If an institute has resources enough then outsiders can be used to guide the simulations,

persons who have knowledge of different cultural habits and trains of thought.

Between the ages 14 and 15 the social consideration grows as a result of the lowered desire to social amusement. I think that in this phase it may be profitable to become acquainted with human motives, the laws of avidity and least effort. It might be relevant to teach the contradiction between speaking and action creating situations in which pupils have to speak and function differently. All kinds of social games, which offer occasions to bluff, develop the understanding of unreliable behavior.

During the age 15 the sunken social amusement remains stable as the result of social concern. The education of "experience on the stage" can be continued.

Between the ages 15 and 16 a cavity occurs in social thinking as an outcome from the continued uncertainty in public behavior. In addition, evaluative behavior emerges between self and others. Thus it is time to teach unaffected conduct and strike out mannerisms to avoid the development of hypocrisy, which causes inner conflicts in self. The implementation can be performed with the help of what-

to-do situations. For example, how to deal with a situation when you are caught from bluffing in poker.

In the age of 16 uncertainty grows and realism arouses as the outcomes from evaluative function of one's own behavior and the cavity in social consideration. The process develops towards a rather problematic direction. The perception is that the reliance with oneself is not at its best. That is why it is necessary to present problems people have, for example using outside lecturers, to visit care institutions, and work places. The young ones often believe their problems to be unique, not common with many other people.

As to the original problem the hypothesis falsified but that does not prevent the existence of a rough solution. From the basis of the results it is not certain that social behavior is genuine social behavior. Behavior can be individual in the presence of others. The latter aspect means that no sharing exists with people, only hanging around with. Sharing is the kernel of social behavior as it has been millions of years but its significance probably is fading away.

Evaluation of the contribution of the study by myself is self-complacent because time is the best

evaluator and it indicates which works have enduring significance in the long run.

On the contrary, the dynamic has consequences to the construction of social education theory. At the very bottom it is indifferent whether the educational theory construction takes place deductively or inductively because educational behavior has a probabilistic nature. Thus every observation cannot be included in the queues needed for the general theory construction. Often the theory construction means that more variables include in the conceptual entity that is to explain real behavior. Seldom the function is inverse when variables are excluded from the conceptual apparatus.

In this context the results prove to imply a fact that sociability is seen there where it does not exist. The dynamic refers to that perceived social behavior is individual behavior in the presence of others. The dress effect of the dynamics refers to such social education theory that the young ones become perplexed because they have not the necessary social skills to take care of business. In reality, they have gotten general culture but they do not have the skills to deal with for example bureaucrats. Thus the social skills are

valuable because they release interaction, promote to cope with social environment which is the substance around which other educational questions gather and other ones in principle can be excluded from social education theory. However, this appears to be a minor point in education theory construction in the revival era of feudalism.

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Figure Caption

Figure 1. Social Mindy Test.

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